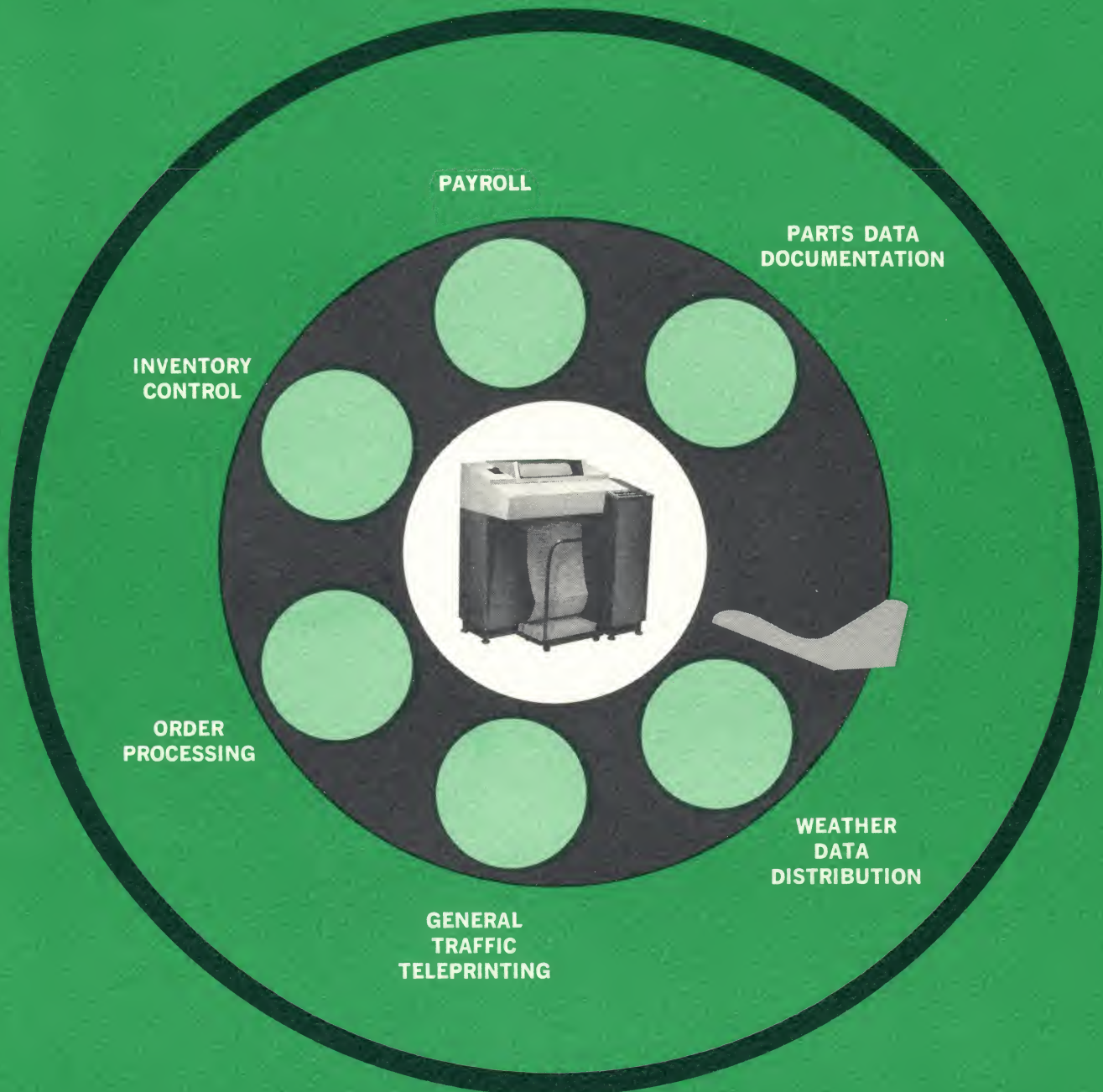


# ANELEX 4000

## REMOTE TERMINAL PRINTER

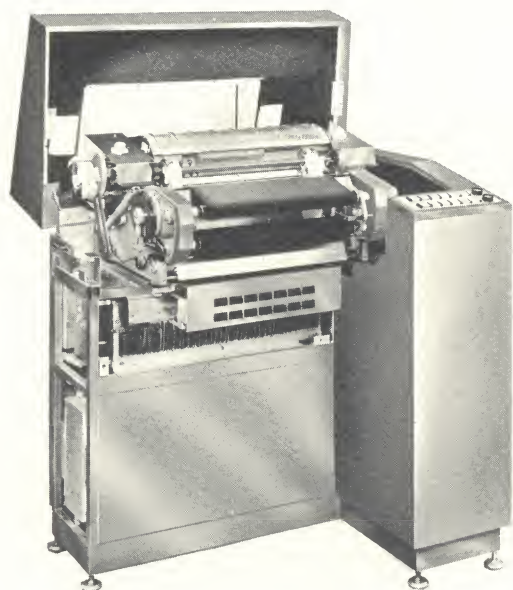
FOR DATA-PHONE® APPLICATIONS



### ANELEX CORPORATION

150 CAUSEWAY STREET • BOSTON, MASSACHUSETTS • 02114





With the Anelex 4000 Printer tied on-line via common carrier telephone data facilities, computer use can be extended to any remote location — at modest cost and with stability, performance, and reliability especially suited to remote environments.

The Anelex 4000 prints 80 to 160 columns on edge-punched business forms 4 to 20 inches wide. Full versatility in font, format, and interfacing make the Anelex 4000 adaptable to nearly every remote communications and data presentation objective.

#### 2-WIRE SYSTEM

*Data-Phone Subset 201B for leased line at 2400 bits/sec; 201A for dial network at 2000 bits/sec.*

In a 2-wire system (single phone pair), transmission can be made in one direction only. To send back verification that a transmitted line of print was received correctly requires that the line be "turned around". This turn-around time requires approximately 200 milliseconds each time or 400 milliseconds per line of print. Operating with line-by-line checking, the printer will achieve the following rates.

Length of printed line (characters)	50	100	120
Lines per minute using 201B Subset (leased line), 8-bit characters, synchronous transmission	95	78	72
Lines per minute using 201A dial network, 8-bit characters, synchronous transmission	94	71	65

#### 2-WIRE SYSTEM

*Line Counting Option — Data-Phone Subsets 201B for leased line at 2400 bits/sec; 201A for dial network at 2000 bits/sec.*

To improve the printing speed of the 2-wire system an alternative which requires additional software capability at the computer and additional hardware at the printer terminal can be used.

The computer transmits a record of a given number of printed lines (e.g., 8) without verification from the printer that each line of print was received correctly.

The lines are then turned around and the printer responds with a verification message.

In the event an error occurred in transmission, the printer sends back the number of the last line received correctly and printed. The computer must then retransmit from that point on. With error-free transmission and verification every 8 lines, the printer will achieve the following rates.

Length of line printed	50	100	120
Lines per minute using 201B Subset (leased line) 8-bit characters, synchronous transmission	236	156	133
Lines per minute using 201A Subset (dial network) 8-bit characters, synchronous transmission	236	132	112

As a remote terminal printer, the printing rate of the Anelex 4000 is a function of: (1) the type of communications line and data modem; (2) the length of line to be printed; and (3) the type and degree of error control. The four most common system methods for complete error control using the Bell System DATA-PHONE® are described below.

The Anelex 4000 Remote Terminal Printer is an impact type with a 2-line buffer and an interface which permits direct matching to various common carrier data modems. Printing is accomplished line-by-line with bit-serial, character serial, digital data accepted from the data subset. All necessary interface matching, data control, buffering, printer control, and vertical formatting are integral with the printer.

**Anelex 4000 Remote Terminal Printer Specifications**

Height.....	48"
Width.....	42 1/4"
Depth.....	29"
Shipping weight.....	1000 lbs.
Power required.....	2.0 KVA
Forms width	
maximum.....	20"
minimum.....	4"
Number of copies.....	1-6
Columns.....	to 160
Single line advance.....	18 ms
Slew rate.....	25"/sec.
Line spacing.....	6 lines
per inch, 8 lines per inch optional	
Vertical format control.....	closed
loop tape moving synchronously with forms	

**4-WIRE SYSTEM**

*Data-Phone Subsets 201B for leased line at 2400 bits/sec; 201A for dial network at 2000 bits/sec.*

In a 4-wire system (2 phone pairs), the error response from the printer can be immediate upon receipt of the data for the line to be printed. The error response is sent over the second phone line, and the "line turn around time" is eliminated. Operating in this manner, with line-by-line checking, the printer will achieve the following rates.

Length of printed line (characters)	50	100	120
Lines per minute using 201B Subset (leased line), 8-bit characters, synchronous transmission	300	165	139
Lines per minute using 201A Subset (dial network), 8-bit characters, synchronous transmission	250	136	115

**2-WIRE SYSTEM**

*Data-Phone Subsets 202C and 202D with reverse channel option.*

The 202 Subsets transmit up to 1800 bits/sec over leased line and 1200 bits/sec over dial network. The reverse channel allows a simultaneous reverse transmission of 5 bits/sec. With the reverse channel reserved to monitor error condition from the printer, transmission and printing can continue without interruption as long as the transmission is error free.

Operating in this manner, the printer will achieve the following rates.

Length of printed line (characters)	50	100	120
Using leased line at 1800 bits/sec 10-bit characters, asynchronous transmission	216	108	90
Using dialed network at 1200 bits/sec 10-bit characters, asynchronous transmission	144	72	60



## COMPANION TO THE 4000 PRINTER



**Punched Card Reader**

...An optional companion to the Anelex 4000 Printer that enables data transmission from the remote terminal to the data processing center. The Punched Card Reader utilizes the buffer and control electronics of the Anelex 4000 Remote Terminal Printer to provide a compact, economical method of entering the central processor from remote terminals.

18" long, 10 $\frac{3}{8}$ " wide, 8 $\frac{1}{2}$ " high, weight approximately 25 lbs.

80-column cards, 100 cards per minute maximum.

Photo-electric read mechanism.

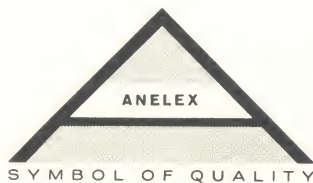
500-card hopper capacity.

Full error checking and retransmission in case of error.

Audit print copy.

Selectable field transmission.

Transmission rate 75 to 100 cards per minute depending on data modem used and number of columns transmitted.



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TELEPHONE 617-742-4585 • TWX: 617-451-3953 • CABLE: ANELEX, BOSTON